

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-12 (Cancelled):

13 (New) An isolated intraplastid-targeting polypeptide, consisting of:

domain A consisting of: i) amino acids 60-100 of SEQ ID NO: 1 or SEQ ID NO: 3;
or ii) a fragment of a protein of an inner membrane of a chloroplast envelope, said protein being recognized by an antibody directed against SEQ ID NO: 1, and said fragment having at least 70% identity or 75% similarity with amino acids 60-100 of SEQ ID NO:1 or SEQ ID NO:3 and when combined with domain B has plastid targeting activity;

and

a domain B located at the N-terminal end of domain A consisting of iii) a fragment of amino acids 1-59 of SEQ ID NO: 1 or SEQ ID NO: 3, said fragment including at least amino acids 49-59 of SEQ ID NO:1 or SEQ ID NO:3, or iv) a fragment of a protein of an inner membrane of a chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO:1, and said fragment having at least 60% identity or 65 % similarity with said fragment iii) and when combined with domain A has plastid targeting activity.

14. (New) The polypeptide as claimed in claim 13, wherein domain B consists of amino acids 39-59 of SEQ ID NO: 1 or SEQ ID NO: 3, or a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 60% identity or 65 % similarity with amino acids 39-59 of SEQ ID NO:1 or SEQ ID NO:3.

15. (New) The polypeptide as claimed in claim 14, wherein domain B consists of amino acids 29-59 of SEQ ID NO: 1 or SEQ ID NO: 3, or a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 60% identity or 65 % similarity with amino acids 29-59 of SEQ ID NO:1 or SEQ ID NO:3.

16. (New) The polypeptide as claimed in claim 15, wherein domain B consists of amino acids 19-59 of SEQ ID NO: 1 or SEQ ID NO: 3, or a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 60% identity or 65 % similarity with amino acids 19-59 of SEQ ID NO:1 or SEQ ID NO:3.

17. (New) The polypeptide as claimed in claim 16, wherein domain B consists of amino acids 9-59 of SEQ ID NO: 1 or SEQ ID NO: 3, or a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 60% identity or 65 % similarity with amino acids 9-59 of SEQ ID NO:1 or SEQ ID NO:3.

18. (New) The polypeptide as claimed in claim 17, wherein domain B consists of amino acids 6-59 of SEQ ID NO: 1 or SEQ ID NO: 3, or of a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 60% identity or 65 % similarity with amino acids 6-59 of SEQ ID NO:1.

19. (New) The polypeptide as claimed in claim 18, consisting of amino acids 6-100 of SEQ ID NO: 1 or SEQ ID NO: 3, or of a fragment of a protein of the inner membrane of the chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO: 1, and said fragment having at least 70% identity or 75 % similarity with amino acids 6-100 of SEQ ID NO:1 or SEQ ID NO:3.

20. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 13 fused with a heterologous protein.

21. (New) The chimeric polypeptide as claimed in claim 20, wherein the intraplastid-targeting polypeptide is placed at the N-terminal end of the heterologous protein.

22. (New) A method for importing a protein of interest into plasts, comprising expressing, in a plant cell containing said plasts, a chimeric polypeptide comprising an intraplastid-targeting polypeptide as claimed in claim 13 fused with said protein of interest.

23. (New) A method of claim 10, wherein said plasts are chloroplasts.

24. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 14 fused with a heterologous protein.

25. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 15 fused with a heterologous protein.

26. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 16 fused with a heterologous protein.

27. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 17 fused with a heterologous protein.

28. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 18 fused with a heterologous protein.

29. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 19 fused with a heterologous protein.

30. (New) The isolated intraplastid-targeting polypeptide of Claim 13, consisting of:
domain A consisting of a fragment of a protein of an inner membrane of a chloroplast envelope, said protein being recognized by an antibody directed against SEQ ID NO: 1, and said fragment having at least 95% identity with amino acids 60-100 of SEQ ID NO:1 or SEQ ID NO:3;

and

a domain B located at the N-terminal end of domain A consisting of a fragment of a protein of an inner membrane of a chloroplast envelope, said protein being recognized by antibodies directed against the polypeptide SEQ ID NO:1, and said fragment having at least 95% identity with said fragment iii).

31. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 30 fused with a heterologous protein.

32. (New) A method for importing a protein of interest into plastids, comprising expressing, in a plant cell containing said plastids, a chimeric polypeptide comprising an intraplastid-targeting polypeptide as claimed in claim 30 fused with said protein of interest.

33. (New) The isolated intraplastid-targeting polypeptide of Claim 13, consisting of:
domain A consisting of amino acids 60-100 of SEQ ID NO: 1 or SEQ ID NO: 3;
and

a domain B located at the N-terminal end of domain A consisting of a fragment of amino acids 1-59 of SEQ ID NO: 1 or SEQ ID NO: 3, said fragment including at least amino acids 49-59 of SEQ ID NO:1 or SEQ ID NO:3.

34. (New) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in claim 33 fused with a heterologous protein.

35. (New) A method for importing a protein of interest into plastids, comprising expressing, in a plant cell containing said plastids, a chimeric polypeptide comprising an intraplastid-targeting polypeptide as claimed in claim 33 fused with said protein of interest.